CLAIMS:

1. A beam-shaping element (200;400) comprising:
- a cavity (210);
- an optical axis (90) extending through the cavity (210);
- a first fluid (250) and a second fluid (252) having different indices of refraction; and
- at least one pump (240) arranged to pump the fluids (250,252) between a first configuration in which the first fluid (250) occupies the cavity (210), and a second configuration in which the second fluid (252) occupies the cavity (210); and
wherein the cavity (210) has at least one curved surface (215,225) extending transverse the optical axis (90).

2. An element as claimed in claim 1, wherein the pump (240) operates utilising at least one of: electro-capillary, differential-pressure electro-capillarity, electrowetting, continuous electrowetting, electrophoresis, electroosmosis, dielectrophoresis, electrohydrodynamic pumping, thermocapillary, thermal expansion, dielectric pumping, mechanic pumping or variable dielectric pumping.

3. An element as claimed in any one of the above claims,
wherein said cavity (210) is cylindrical, with the longitudinal axis of the cavity being coaxial with the optical axis (90).

4. An element as claimed in any one of the above claims, wherein said curved surface (215,225) is aspherical.

5. An element as claimed in any one of the above claims, wherein said curved surface (215,225) is rotationally symmetric with respect to the optical axis (90).

6. An element as claimed in any one of the above claims, wherein in the first configuration, the element is arranged to shape an incident radiation beam (120) to provide a

first beam intensity profile (122; 422), and in the second configuration the element is arranged to shape an incident radiation beam (120) to provide a second different beam intensity profile (122'; 422').

7. An optical device (1) comprising a beam-shaping element (200; 400), the element comprising:

- a cavity (210);
- an optical axis (90) extending through the cavity (210);
- a first fluid (250) and a second fluid (252) having different indices of refraction; and
- at least one pump (240) arranged to pump the fluids (250, 252) between a first configuration in which the first fluid (250) occupies the cavity (210), and a second configuration in which the second fluid (252) occupies the cavity (210); and

wherein the cavity (210) has at least one curved surface (215, 225) extending transverse the optical axis (90).

8. A device as claimed in claim 7, wherein the device further comprises a fixed lens (220, 230) concatenated with said element.

9. A device as claimed in claim 8, wherein the fixed lens (230) is formed of a material having a refractive index substantially the same as the refractive index of one of said fluids (252).

10. A device as claimed in any one of claims 7 to 9, wherein the device is an optical scanning device (1) for scanning an information layer (4) of an optical record carrier (2), the device (1) comprising a radiation source (11) for generating a radiation beam (12, 15, 20) and an objective system (18) for converging the radiation beam (12, 15, 20) on the information layer (4).

11. A method of manufacturing a beam-shaping element (200; 400), the method comprising the steps of:

- providing a cavity (210), with an optical axis (90) extending through the cavity (210), the cavity having at least one curved surface (215, 225) extending transverse the optical axis (90);

- providing a first fluid (250) and a second fluid (252) having different indices of refraction; and providing at least one pump (240) arranged to pump the fluids (250, 252) between a first configuration in which the first fluid (250) occupies the cavity (210), and a second configuration in which the second fluid (252)occupies the cavity (210).

12. A method of manufacturing an optical device (1), the method comprising the steps of:

providing a beam-shaping element (200; 400), the beam-shaping element comprising:

- a cavity (210);
- an optical axis (90) extending through the cavity (210);
- a first fluid (250) and a second fluid (252) having different indices of refraction; and
- at least one pump (240) arranged to pump the fluids (250, 252) between a first configuration in which the first fluid (250) occupies the cavity (210), and a second configuration in which the second fluid (252) occupies the cavity (210); and

wherein the cavity (210) has at least one curved surface (215; 225) extending transverse the optical axis (90).

13 A method of operating a beam-shaping element, the element comprising a cavity; an optical axis extending through the cavity; the cavity having at least one curved surface extending transverse the optical axis; a first fluid and a second fluid having different indices of refraction; and at least one pump, the method comprising
a first step of pumping the first fluid out of the cavity; and
a second step of pumping the second fluid into the cavity.

14 A method as claimed in claim 13, in which the first step and the second step are performed simultaneously.